Forest Insect Conditions on the Fishlake National Forest 1968

The following evaluation describes the current forest and range insect conditions on the Fishlake National Forest in 1968. The Hilgard Mountain spruce beetle infestation remains the focal point of concern. A declining tent caterpillar population on bitterbrush and a continuing mealybug epidemic are also reviewed.

Spruce beetle, Dendroctonus obesus

The recent upsurgence in spruce beetle activity in the Region is epitomized by the area on and around Hilgard Mountain. The most significant increase occurred in that area. To avoid repetition in this report, the reader is referred to last year's edition of this same report and to a Timber Management memorandum (subject--Evaluation (spruce beetle), 5230, dated July 26, 1968).

The beetle situation was triggered by blowdowns occurring several years ago. In essence, we have a condition of annual spruce attrition caused by repeated generations of beetles. Although the annual mortality has not increased drastically, it has continued steadily. Due to poor logging access, salvage cutting is not currently practical.

The 1968 aerial survey revealed that the Hilgard Mountain outbreak has increased in intensity and extent of dying spruce. The most appropriate course of action is still that of very close surveillance of the infestation. Fortunately, the present outbreak is confined to an area of several square miles; this also facilitates field observations.

Great Basin tent caterpillar, Malacosoma sp.

A form of the Great Basin tent caterpillar (currently under taxonomic revision) has historically been found feeding on bitterbrush and other range plants in the Intermountain Region. Although populations do not display any predictable cycle, they periodically reach high levels at scattered locations. During intervening endemic years they can usually be found feeding in low numbers on certain host plants. Being colonial by habit, even in very low populations, a tent or occasional tents will be found. In 1967, widespread tent caterpillar defoliation was reported on the Fishlake Forest. Upsurges of Malacosoma activity simultaneously occurred elsewhere in the Region, indicating possible widespread and favorable climatological conditions. The 1967 infestation level was preceded by a higher than normal level in 1966. These tent caterpillars characteristically harbor a virus in their populations. A virus condition normally persists at initially low levels in the host insect population and then, as the host numbers increase, the virus becomes increasingly virulent or infectious. The result is an eventual increase in larval mortality and an infestation decline.

For the above reason, tent caterpillars often, but not always, decline in numbers after about three years. The current population on the Forest shows evidence of decline. This could possibly be due to the above relationship.

Another contributing factor may possibly have been an unseasonal frost during larval feeding this past summer. An on-the-ground examination was not possible to verify this possibility.

To determine the status of the overwintering population at one of the most heavily defoliated areas, that of Bell Rock Ridge and Davis Hollow, Regional entomologists examined 20 bitterbrush plants for egg masses. The distribution of eggs was highly scattered as in past years, but a definite decline was apparent. The following is a comparison with data from past years.

Egg Masses

Year Examined	Year Deposited	Ave. No. Per Plant	Percentage of Plants with Egg Masses
1968	1968	0.40	25
1967	1967	2.22	31
1967	1966 & before	0.52	

There appears to be some branch and leader mortality on bitterbrush that was totally defoliated in 1967. Defoliation in 1968 was not as serious. Damage should become further reduced with next summer's population. No control is considered necessary at this advanced stage of the infestation, although some insect activity will undoubtedly be seen in 1969.

Spruce mealybug, Puto sandini

The spruce mealybug has long infested Engelmann spruce on Thousand Lake Mountain. Recorded infestations date back to 1939. Examinations of spruce south of Big Lake indicate that the insect is still readily observable. The black, charred appearance of twigs and branches and the visible white cottony masses of insects on the branches is indicative of an infestation. New foliage on heavily infested trees is characteristically frosty blue while the older needles are faded almost yellow. While the ultimate host damage is not really known, there is reason to expect possible branch killing in repeatedly infested trees. We lack a suitable control method at present.

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